

WISCONSIN WELLHEAD PROTECTION NEWS

Fall, 1999

GREETINGS!

I intended to get this to you earlier in the fall, but now it's close to being a winter newsletter! Since my last newsletter, the Department of Natural Resources (DNR) has set up a toll free wellhead protection (WHP) phone number. You can call me toll free if you have a question or need information or assistance with WHP. That number is 877-268-9355 (WELL).

This newsletter contains a listing of resources that are available to assist you with wellhead protection planning. I hope you will take advantage of these quality materials. I'm also including updates on three initiatives that came out of the 1996 Amendments to the Safe Drinking Water Act.

Best wishes for a happy Holiday Season and a wonderful new year!

Dave Lindorff, Editor

PUBLICATIONS

The Department of Natural Resources (DNR) has recently completed updates to three groundwater and WHP publications. Contact Dave Lindorff to get copies of any of these publications. The last two are available on the DNR's web site.

1. *Groundwater – Wisconsin's Buried Treasure.* This is an update of the 1989 publication and is intended for the general public. This 32-page publication contains information on groundwater use, Wisconsin's aquifers, threats to groundwater and ways to protect this valuable resource.
2. *Wellhead protection – an ounce of prevention.* This brochure has been rewritten from a 1992 version and is intended to provide an overview of WHP for the general public. It describes the wellhead protection program and why communities should proactively protect their water supply wells.
3. *A Guide for Conducting Potential Contaminant Source Inventories for Wellhead Protection.* This

edition is a revision of the 1993 DNR publication and provides guidance to communities interested in inventorying potential contaminant sources. It provides a step-by-step approach for identifying threats to public water supply wells.



VIDEOS

A number of videos are available or in the works addressing groundwater protection or wellhead protection issues.

1. *What is this groundwater?* The College of Natural Resources at the University of Wisconsin – Stevens Point (UWSP) has prepared a ten-minute video as an introduction to groundwater. It describes groundwater in relation to the hydrologic cycle and uses a sand-tank model to show the principals of groundwater movement and how contaminants can move through the subsurface. It is available by sending a check for \$5 to Groundwater Model Project, UW-Stevens Point, Stevens Point, 54481. The e-mail address is gwmproject@uwsp.edu.
2. *Granton, Wisconsin Story.* The Groundwater Guardians of the Marshfield Area prepared a video describing a well contamination incident in Granton. Officials and residents from Granton talk about their experience dealing with two contaminated wells. The video runs 7 ½ minutes. It is available from Cathy Lotzer at the Marshfield Water and Electric Department. Her phone number is 715-387-1195, ext. 330.
3. *Putting the Pieces Together.* This 27-minute video, prepared by the USEPA Region 5, describes the components of a WHP program. It features examples from Midwest states. Contact Dave Lindorff to borrow a copy.
4. *Wellhead Protection – An ounce of prevention.* This video is being prepared by the DNR to encourage communities to develop a WHP

plan. The video will be about ten minutes long and describe what wellhead protection is, the steps involved, and resources available to assist communities. It will be distributed to water utilities and local officials during the new year.

GROUNDWATER GUARDIAN PROGRAM

The Groundwater Foundation is a national program focused on grass-roots groundwater education and protection efforts. The organization provides programs and publications to educate the public about groundwater and its vulnerability to contamination. It promotes voluntary action at the local level to protect groundwater through its Groundwater Guardian program. The Groundwater Foundation rewards communities that take proactive steps by designating them 'Groundwater Guardian Communities'. The Groundwater Guardian communities in Wisconsin include: Chippewa Falls, Eau Claire County, and the Marshfield Area. The Groundwater Foundation provides assistance to communities through a variety of educational materials, a newsletter, website and a toll-free help line. Members also have access to the network of approximately 150 Groundwater Guardian communities nationwide. New communities can join at any time. Find out more about the Groundwater Guardian program by calling 800-858-4844 or by visiting the Groundwater Foundation website at www.groundwater.org.

WEB SITE

Over the past several months, the DNR has greatly expanded the WHP web site (www.dnr.state.wi.us/org/water/dwg/gw/whp.htm) to include: a description of wellhead protection, a summary of Wisconsin's program, an annotated list of publications, a list of contacts, example ordinances, past issues of the Wisconsin WHP Newsletter, and a list of available publications. Check it out, especially if you haven't visited it before.

SOURCE WATER ASSESSMENT PROGRAM UPDATE

Wisconsin has received approval from the U. S. Environmental Protection Agency (EPA) on its Source Water Assessment Program (SWAP) plan submitted to EPA in February. Wisconsin is one of 32 states which have received EPA approval.

Wisconsin and other states are required to complete the following steps for all public water systems by May 6, 2003:

1. Delineate the source water protection area.

2. Inventory potential contaminant sources within the source water protection area.
3. Complete an assessment of the susceptibility of each public water supply.
4. Make each source water assessment available to the public.

These steps will be accomplished to be consistent with groundwater rule and vulnerability assessment requirements. To implement the SWAP, the DNR hired 5 project positions to work in its regional offices.

In an effort to provide accurate information for the source water delineations, the DNR is supporting groundwater flow modeling efforts in all or parts of 19 Wisconsin counties. Modeling is completed, in progress, or in the planning stage for Dane, Eau Claire, Kenosha, LaCrosse, Milwaukee, Ozaukee, Racine, Rock, Sauk, Walworth, Washington and Waukesha Counties. Modeling will be completed for parts of Adams, Brown, Outagamie, Portage, Waushara, Winnebago and Wood Counties. A project in Pierce and St. Croix counties is also being considered. Besides providing advanced delineations for the municipal wells within these areas, these models will also provide a valuable tool for planning at the local level. The DNR is working closely with the U. S. Geological Survey, Wisconsin Geological and Natural History Survey and local governments in these areas.

The DNR is also undertaking multi-program efforts to collect and manage potential contaminant source information. These efforts are being coordinated with the Drinking Water and Groundwater, Remediation and Redevelopment, Waste Management, and Watershed Management programs in the DNR.

More information on Wisconsin's SWAP is available on the internet at: www.dnr.state.wi.us/org/water/dwg/gw/swp.htm

GROUND WATER RULE UPDATE

The 1996 Safe Drinking Water Act (SDWA) amendments authorize the United States Environmental Protection Agency (USEPA) to develop national drinking water regulations requiring disinfection, as necessary, for public water systems (PWSs) with a groundwater source (GWS). USEPA is targeting the early part of 2000 to propose a Groundwater Rule (GWR) which will implement this authority. The regulations are being developed due to substantial evidence that waterborne disease outbreaks occasionally occur from microbial pathogens in groundwater.

Depending on the specifics within the final rule, the GWR would change monitoring requirements and/or water supply operations at some public water systems that do not presently disinfect, since all PWSs - including all noncommunity water systems - will fall under its jurisdiction. Roughly 3.7 million Wisconsinites depend on publicly supplied groundwater. Of the state's nearly 12,000 public water systems, 250 of them now disinfect.

The following discussion is based on what the DNR thinks will happen. The requirements discussed here may change before the rule is finalized. The latest regulatory approach being discussed by EPA will not mandate disinfection for all GWSs. It would require state drinking water programs, like the DNR, to conduct sanitary surveys and hydrogeologic sensitivity assessments to narrow the group of GWSs that would be considered for additional monitoring or required treatment.

EPA's approach would require a state, through a hydrogeologic sensitivity assessment, to identify GWS wells that are located in karst, fractured bedrock, or in a gravel/cobble geologic setting that are not protected by a barrier to contamination. Such wells would be considered to be sensitive to fecal contamination unless they are treating their water to remove or inactivate at least 99.99% of viruses. GWSs considered to have sensitivity to fecal contamination would be required to sample their source water monthly for at least one fecal indicator to be determined by each state. Monthly monitoring at sensitive wells could be reduced or waived by the state after twelve months of testing if certain conditions are met.

All GWSs that collect a total coliform positive sample in their distribution system would also be required to collect a source water sample from their well(s) and have it analyzed for at least one fecal indicator. Any GWS that detects a fecal indicator in a source water sample would be required to correct the problem, provide an alternative source of safe water, or treat the drinking water no later than 90 days from the date of detectable contamination, unless the state invalidates the sample or waives the treatment requirement.

State programs would be required to conduct sanitary surveys, at a minimum, every three years at community water systems (CWS) and every five years at noncommunity water systems.

GWSs would be required to fix deficiencies identified during a sanitary survey. If the

deficiencies remain uncorrected, the GWS would be required to disinfect their source water. In lieu of, or in addition to the disinfection requirements, the state could require the GWS to either utilize an uncontaminated alternative drinking water source, or eliminate the source of contamination. The state would determine the minimum chlorine residual concentration that will provide the proper contact time to inactivate 99.99% of viruses at the point where the first customer is served by the GWS. A detectable residual throughout the entire distribution system would also be required.

GWSs with uncorrected sanitary deficiencies or fecal contamination could use other treatment techniques, like membrane filtration, ozone or ultraviolet radiation, as long as they treat the water to remove/inactivate 99.99 % of viruses for the first customer served.

It is important to restate that none of the potential requirements mentioned in this article are final, and are, therefore, subject to change. The EPA is in the midst of the GWR rule-making process which will not be completed until at least November 2000. For more information, contact Carol McCurry at 608-267-2449.

CAPACITY DEVELOPMENT UPDATE

As of September 1, 1999, all new community and nontransient noncommunity (NTNC) water systems must demonstrate that they have adequate technical, managerial, and financial capacity prior to construction of a water system. Wisconsin Administrative Code NR 809.931 outlines the capacity development requirements for new systems.

New Systems

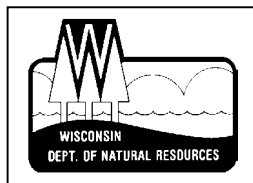
For municipal water systems, capacity evaluations will be completed by the DNR as part of the system plan review process. Once the plan and capacity evaluation are approved, DNR will send a plan approval letter and capacity certification to the owner.

The same will be true for all new NTNC systems with a pumping capacity greater than 70 gallons/minute and all new other-than-municipal (OTM) systems. However, these systems will have to complete a capacity evaluation form as an additional part of the plan review process. NTNC system owners must complete DNR Form 3300-246, and OTM system owners must complete DNR Form 3300-247. These forms are available from Corinne Billings, Capacity Development Coordinator – DG/2, Wisconsin DNR, P. O. Box 7921, Madison,

expertise in various field that relate to naturally occurring arsenic groundwater. The group includes DNR Drinking Water and Groundwater staff, other state agencies, EPA and US and Wisconsin Geological Surveys, UW System, UW Extension, local county health departments, the National Institute of Health and the Wisconsin Water Well Association. Subgroups are focusing efforts on regional characterization of arsenic, hydrogeological and geochemical triggers, health issues, recommendations and communication and education.

A public information brochure on arsenic has been created by the DNR in cooperation with the State Department of Health and Family services and has been approved by the Groundwater Coordinating Council's Education Subcommittee. It will be ready for distribution to the public through DNR's regional offices by late April.

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The Wisconsin Wellhead Protection Newsletter is a publication of the Wisconsin Department of Natural Resources' Bureau of Drinking Water and Groundwater. Its purpose is to provide current information on wellhead protection topics. It is published in the spring and fall and as needed.

Comments, questions, suggestions and articles are welcome and can be sent to: David Lindorff, Editor, Wisconsin Wellhead Protection Newsletter Department of Natural Resources, P. O. Box 7921, Madison, WI 53707-7921

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The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of the Interior, Washington, D. C. 20240. This newsletter is available in alternate format upon request. If interested, please contact David Lindorff, Editor. PUBL DG-054 4/00

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